Model **GSPEC-A** Ethernet Based Gamma Spectroscopy System

(Complete system with 1K MCA, High Voltage Supply, Spectroscopy Amplifier, Preamplifier)

Model **GSPEC-A** is a versatile compact 1024 channel Multichannel Analyzer based Gamma Spectroscopy system. GSPEC-A is designed and manufactured indigenously by Para Electronics Mfg. Division of Electronic Enterprises (I) Pvt Ltd for 14 pin NaI(Tl) Scintillation Detector based Gamma Spectroscopy.

GSPEC-A requires +5VDC,1A external supply. It includes preamplifier, spectroscopy amplifier, high voltage power supply for the detector and 1024 channel, 48 MHz Wilkinson ADC with SiLab microcontroller for ethernet interface with PC for spectrum acquisition and data processing.

Data acquisition software provides spectrum acquisition and display, spectrum analysis software for Energy calibration, ROI selection, area calculation, peak search, peak information, spectrum smoothing and spectrum data storage on PC hard disk. DLL file will be provided for communication with device. User can develop his application using our DLL. DLL is suitable for Windows operating system.

High voltage supply necessary to operate scintillation detector is software programmable from 0 to 1200 volts in 256 steps. Spectroscopy amplifier gain is settable through PC. The whole setup has a resolution of around 7% or better with NaI(Tl) detector.

GSPEC-A is ideally suited for Nuclear Spectroscopy experiments carried out at Universities, Environmental Survey Labs and Health Physics Units of Nuclear Power Plants and Chemical Control Labs.
Specifications

Input Signal Configuration:
- 14 Pin base for standard NaI(Tl) Scintillation detectors
- Built in Voltage Divider Network
- Preamplifier suitable for NaI(Tl) detector

High Voltage Power Supply:
- 0 to +1200 V dc, 0.5 mA
- 256 steps software programmable
- Ripple < 30 mv

Spectroscopy Amplifier:
- 1 μ sec semi Gaussian shaping with internal PZ adjustment
- Gain Setting settable through PC
- Output: 0 to 5 V unipolar semi Gaussian, connected internally to ADC input

ADC:
- 1K Channel Willkinson type
- 48 MHz clock frequency
- Conversion time - 20 μ sec for FS input
- Differential Non Linearity less than 2 %

Supply Input:
- +5VDC, 1A

Data Acquisition and Processing Software:
- Acquisition and display of Gamma Spectrum
- Energy Calibration, ROI selection, Area Calculation,
- Peak search and peak information
- Spectrum Stabilization & Smoothening of spectrum
- Data Storage on PC’s hard disk

Mechanical:
- Dimensions: 76mm Dia x 125mm Height, Cylindrical steel housing with 14 pin Socket
- Weight: Approximately 1 Kg

Optional:
- NaI(Tl) Detector, Lead Shield suitable for detector

Due to continuous R&D, specifications are likely to change without notice

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